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NEW DATA ABOUT MORPHOLOGY AND FEEDING PATTERNS OF BARENTZ SEA HALICHONDRIA PANICEA (PALLAS). *Memoirs of the Queensland Museum* 44: 262. 1999:- Visual observations in the marine aquaria and transmission electron microscopy studies on the larvae of the intertidal sponge *Halichondria panicea* demonstrated individual variations in external and internal morphology, behaviour and type of metamorphosis. Parenchymulae of this species were found to possess the ability to actively feed by endocytosis (phago- and pinocytosis). The larvae crawled over the substrate and cast numerous unicellular organisms (bacteria and flagellates from 2 - 4µm in size) onto the body surface by a flagellum. During this, the apical parts of the flagellated cells formed large lobopodia that served for catching and ingesting food particles. I monitored the consequent patterns of contact of the flagellates with the surface of lobopodia, their entrapment, submersion, the formation and transport of the digestive phagosomes into the basal parts of the surface cells. Each surface locomotory cell was capable of catching and ingesting food. No morphological and/or functional differences between the surface cells were found. Nevertheless, singular flagellated cells packed

with the phagosomes submerged inside the larva. Here these cells could be easily distinguished by the presence of a flagellum and the typical shape of the nucleus. Later on, the submerged flagellated cells withdrew the flagellum and acquired an amoeboid shape. Final digestion of the caught organisms occurred only inside the larva. It was suggested that endosymbionts found in the surface and inner cells of the larvae served as an additional food source for the larvae. Presence of the numerous pinocytosis vacuoles in the apical parts of the flagellated cells suggested that the sponge larvae are also able to absorb dissolved low-molecular matter.

To conclude, parenchymula of *H. panicea* could be recognised as a living embodiment (a living model) of the hypothetical phagocytella of Mechnikov in which the differentiation of the body layers into kinoblast and phagocytoblast is only primordial, purely functional and still reversible. □ *Porifera, intertidal, larva, feeding, digestion, endocytosis, digestive phagosomes, Halichondria panicea.*

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